UK Panel Radiator Heat Output Study

A like-for-like analysis of standard panel convector radiators from K-RAD, Stelrad and Scudo using manufacturer-published Delta T50 heat outputs.

421 radiator records | 64 exact size/type comparison groups | 10 three-brand comparisons

11.8%	5.2%	78.1%
Largest same-size heat-output gap	Median highest-to-lowest gap	Exact groups led by K-RAD

Compiled by Find Cheap Radiators. Related ranges: Kartell Radiators, Kartell Kompact Radiators, Scudo Radiators, Scudo Compact Radiators, and Stelrad.

This report compares published heat output only. It does not compare RRP, retail price, running cost or whole-system efficiency.

1. Executive summary

This study normalizes 421 standard panel convector radiator records across K-RAD, Stelrad and Scudo. 419 records are accepted for analysis. Two anomalous Stelrad records are retained for audit but excluded from rankings.

The strongest evidence comes from 64 exact groups in which at least two brands have the same normalized radiator type, nominal height and nominal width. The median highest-to-lowest Delta T50 difference is 5.24%, and the maximum observed difference is 11.79%.

K-RAD has the highest published Delta T50 output in 50 of 64 exact groups (78.1%). Stelrad leads 14 groups. Scudo appears in only 10 exact three-brand groups, so this is not a universal brand ranking.

Finding	Result
Largest observed same-size/type gap	11.79%
Median same-size/type gap	5.24%
K-RAD highest-output groups	50 of 64 (78.1%)
Stelrad highest-output groups	14 of 64
Exact three-brand groups	10

Key interpretation: identically sized radiators of the same panel/convector type do not necessarily publish the same heat output. Radiator configuration itself can have a larger effect than brand choice.

2. Scope and methodology

A radiator enters a brand comparison only when its normalized Type (11, 21, 22 or 33), nominal height and nominal width are identical. No nearest-size matching is used.

Rule	Method
Primary ranking metric	Manufacturer-published BTU/hr at Delta T50
Supporting metric	Manufacturer-published Watts at Delta T50
Exact match	Same type + same nominal height + same nominal width
Prices	Excluded - no consistent equivalent RRP/list-price source across all brands
Other temperatures	Excluded from the core brand ranking
QA	Source values retained separately from trusted/ranking values

Output basis. K-RAD states that Delta T50 uses a 70 C mean water temperature and 20 C room temperature and is based on BS EN 442 operating conditions. Stelrad explicitly defines t50 as 75/65/20 C and identifies its certification data as tested in accordance with BS EN 442. Scudo labels outputs as T50 and states EN442 tested and certified, but its supplied brochure does not print the exact flow/return/room temperatures.

Important limitation. This compares published heat-output ratings, not room heat loss, seasonal efficiency, running cost or overall product quality.

3. K-RAD vs Stelrad by radiator family

The direction of the result changes by radiator family. K-RAD leads most matched Type 21, Type 22 and Type 33 groups, while Stelrad leads the common 600 mm-high Type 11 comparisons.

Type	Height	Exact matches	Higher published output	Median advantage
Type 11	300 mm	2	K-RAD	2.94%
Type 11	600 mm	14	Stelrad	3.09%
Type 21	600 mm	13	K-RAD	5.06%
Type 22	300 mm	2	K-RAD	6.89%
Type 22	600 mm	15	K-RAD	5.92%
Type 33	500 mm	5	K-RAD	5.84%
Type 33	600 mm	13	K-RAD	5.23%

The defensible conclusion is that published output varies by brand, type and height, even when nominal size is identical.

4. Three-brand exact comparisons

All 10 exact K-RAD, Stelrad and Scudo comparisons are 600 mm-high Type 21 or Type 22 radiators at widths of 600, 800, 1000, 1200 and 1400 mm.

Type 21 median differences: K-RAD vs Stelrad 5.05%; K-RAD vs Scudo 6.13%; Stelrad vs Scudo 1.03%.

Type 22 median differences: K-RAD vs Stelrad 5.92%; K-RAD vs Scudo 11.79%; Stelrad vs Scudo 5.54%.

Type	Size mm	K-RAD BTU	Stelrad BTU	Scudo BTU	Highest	Gap
Type 21	600x600	2,897	2,758	2,730	K-RAD	6.12%
Type 21	600x800	3,863	3,677	3,640	K-RAD	6.13%
Type 21	600x1000	4,829	4,597	4,550	K-RAD	6.13%
Type 21	600x1200	5,795	5,516	5,460	K-RAD	6.14%
Type 21	600x1400	6,760	6,435	6,370	K-RAD	6.12%
Type 22	600x600	3,756	3,546	3,360	K-RAD	11.79%
Type 22	600x800	5,008	4,728	4,480	K-RAD	11.79%
Type 22	600x1000	6,260	5,910	5,600	K-RAD	11.79%
Type 22	600x1200	7,512	7,092	6,720	K-RAD	11.79%
Type 22	600x1400	8,764	8,273	7,840	K-RAD	11.79%

The repeated Type 22 gap across all five common widths is useful because it is not driven by a single unusual SKU.

5. Common 600 x 1000 mm example

The 600 x 1000 mm size illustrates how output changes both by brand and by radiator configuration.

Type	K-RAD BTU	Stelrad BTU	Scudo BTU	Highest	High-low gap
Type 11	3,241	3,344	-	Stelrad	3.18%
Type 21	4,829	4,597	4,550	K-RAD	6.13%
Type 22	6,260	5,910	5,600	K-RAD	11.79%
Type 33	8,578	8,151	-	K-RAD	5.24%

Radiator type can matter more than brand

For K-RAD at 600 x 1000 mm, Type 21 publishes 4,829 BTU and Type 22 publishes 6,260 BTU, a 29.6% increase. Moving from Type 22 to Type 33 raises output by a further 37.0%.

For Stelrad, Type 21 to Type 22 increases output by 28.6%, and Type 22 to Type 33 by 37.9%. For Scudo, Type 21 to Type 22 increases output by 23.1%.

Selecting the correct panel/convector configuration can therefore have a materially larger effect on output than changing brand while keeping the same configuration.

6. Water content and physical depth

Where source technical documents provide the data, the master dataset includes water content, weight, depth and derived output-density metrics.

Type	Brand	BTU T50	Water L	BTU/L	Depth mm
Type 21	K-RAD	4,829	5.9	818	70
Type 21	Scudo	4,550	5.9	771	70
Type 21	Stelrad	4,597	6.6	697	77
Type 22	K-RAD	6,260	5.9	1,061	105
Type 22	Scudo	5,600	5.9	949	102
Type 22	Stelrad	5,910	6.6	895	100

BTU per litre is not an energy-efficiency rating. It is only an output-density metric relative to published water content.

7. Data quality, verification and exclusions

Raw source values are preserved separately from the values allowed to influence rankings. This avoids silently correcting manufacturer literature when a value appears unusual.

Record	Decision	Treatment
Stelrad 941122h - 450 x 2200 K1	Excluded	Source retained for audit; trusted output left blank.
Stelrad 961120h - 600 x 2000 K1	Excluded	Source retained for audit; trusted output left blank.
K-RAD S308K	Included	Delta T50 published value retained after cross-check.
K-RAD D524K	Included	Delta T50 published value retained after cross-check.
K-RAD D624K	Included	Delta T50 published value retained after cross-check.
K-RAD D904K	Included	Delta T50 published value retained after cross-check.
K-RAD T606K	Included at T50	Identified conflict concerns T60, outside the core ranking.
K-RAD S522K	Included at T50	Identified conflict concerns another output condition, outside the core ranking.

A reader can therefore distinguish what a source printed from what this study accepted for comparison.

8. What this study does and does not show

Supported by this study	Not supported by this study
Published Delta T50 output differs between some exact same-size/type radiators.	Higher BTU automatically means better overall product quality.
Radiator type/configuration can change output substantially at the same nominal size.	One brand is best for every room or heating system.
K-RAD leads most exact groups in this dataset; Stelrad leads common 600 mm Type 11 matches.	Retail value-for-money, because equivalent price data was not compared.
Water content and depth can be compared where technical source data exists.	Real-world room performance without a project-specific heat-loss calculation.

9. Sources, data files and reuse

Primary source documents supplied for this study:

Brand	Source used
K-RAD / Kartell	K-RAD KOMPACT Price List - September 2025, including Type 11/21/22/33 output and technical tables.
Stelrad	Classic Compact technical PDF for K1/P+/K2 and separate Classic Compact K3 technical PDF.
Scudo	Compact Panel Radiators brochure with Type 21 and Type 22 T50 outputs and fitting/weight/water data.

Project links

- Find Cheap Radiators
- Kartell Radiators
- Kartell Kompact Radiators
- Scudo Radiators
- Scudo Compact Radiators
- Stelrad

The full normalized CSV and exact-match comparison CSV are intended to accompany this report when uploaded to a repository or data-sharing site. If reused, cite Find Cheap Radiators as the compiler and preserve attribution to the underlying manufacturers.

Suggested citation: Find Cheap Radiators. *UK Panel Radiator Heat Output Study: K-RAD, Stelrad and Scudo exact-size Delta T50 comparison.*

Data should be rechecked when manufacturers publish updated technical literature. This report is comparative research and is not a substitute for a professional heat-loss calculation or heating-system design.